

Rhode Island Department of Health

Public Health Briefings

Proposed Prostate Cancer Screening Recommendations

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Objective

The Rhode Island Department of Health assembled an Expert Panel on Cancer Screening to advise the Department on revising the State's current cancer control plan, published in 1989. (1) After reviewing the current screening recommendations of national organizations and the most recent pertinent literature, the Panel proposed a recommendation for prostate cancer screening.

Methods

- Review current prostate cancer screening recommendations of national organizations.
- Review the most recent literature pertinent to prostate cancer screening.
- Discuss.
- Propose prostate cancer screening recommendations for the State's cancer control plan.
- Write a simple rationale for the proposed prostate cancer screening recommendations.
- Invite comments on the proposed recommendations and rationale.

Current Prostate Cancer Screening Recommendations:

U.S. Preventive Services Task Force (2)

- Routine screening for prostate cancer with digital rectal examinations (DRE), serum tumor markers (e.g., prostate-specific antigen, PSA), or transrectal ultrasound (TRUS) is not recommended.

American Cancer Society

- PSA and DRE should be offered annually starting at age 50 to men with at least a 10-year life expectancy, and to younger men (i.e., age 45) who are at high risk for prostate cancer (i.e., men with a family history of prostate cancer and African-American men). Information should be provided about potential risks and benefits.

American Urological Association

- Annual PSA and DRE substantially increase early detection and are most appropriate for men age 50 and older (40 and older for those at high risk, i.e., men with a family history of prostate cancer and African-American men). Such patients should be given information about these tests and given the option to participate in screening or early detection programs. PSA testing should continue in a healthy man who has a life expectancy of 10 years or more.

American College of Radiology

- A combination of DRE and PSA level should be used as an initial screening procedure. Use TRUS to evaluate men who have an abnormal DRE or PSA level.

American Academy of Family Physicians

- Men age 50 to 65 should be counseled about the known risks and uncertain benefits of screening.

American College of Physicians

- Physicians should describe the potential benefit and known harms of screening, diagnosis, and treatment, listen to the patient's concerns, and then individualize the decision to screen.

Office of Technology Assessment (3)

- Research to date has not determined whether or not systematic early screening for prostate cancer with PSA and/or DRE would save lives. The choice to have screening or forego should depend on patient values.

Canadian Task Force on the Periodic Health Examination

- Recommends against the routine use of PSA or TRUS as part of the periodic health examination.
- The evidence is not sufficient to recommend that physicians discontinue use of DRE in men aged 50-70.

Proposed Rhode Island Recommendations*

- **PSA and DRE should be offered annually starting at age 50 to men with at least a 10-year life expectancy and to younger men (i.e., age 45) who are at high risk (i.e., men with a family history of prostate cancer and African-American men). Information should be provided about potential risks and benefits.**

* Please note: these recommendations were clarified in a [subsequent article](#).

Rationale

Prostate cancer screening was not addressed by the Rhode Island Cancer Control Plan for 1990-1992. One of the goals of that document was to "Screen all eligible people for cancer, using screening methods which have been demonstrated to reduce mortality or morbidity substantially." The proposed Rhode Island recommendations are based on adoption of that same goal for the current review process, and focus on screening with prostate specific antigen (PSA) tests and digital rectal examinations (DRE).

In deciding which medical condition should be sought during screening, the first criterion is the burden of suffering caused by the condition. (4) Prostate cancer is the most frequently diagnosed cancer among men in the United States. More than 317,000 new cases of prostate cancer were diagnosed in 1996, and more than 41,000 deaths were attributed to prostate cancer. (5) Adding to the seriousness of this disease is the fact that prostate cancer, particularly in its later stages, is associated with significant morbidity and decrease in the quality of life. Two other criteria are important when deciding which medical condition should be sought during screening: the effectiveness of the ensuing treatment if the condition is found and the accuracy of the screening test. (4) In the case of prostate cancer screening there is no objective evidence at this time that screening with PSA and/or DRE decreases prostate-cancer specific morbidity or mortality. Results of randomized controlled clinical trials of prostate cancer screening are expected, but not for at least a decade. (6,7,8)

An intermediate outcome expected to occur prior to demonstrating effectiveness of any screening test for prostate cancer is detecting an increasing proportion of prostate cancer cases in earlier, localized stages. This has, in fact, occurred. (9) Treatment of prostate cancer in its earlier stages is associated with better survival than is treatment at later stages. (10) However, the discrepancy between the number of men estimated to harbor latent prostate cancer and the number of deaths attributed to prostate cancer annually make it appear that many prostate cancers are not clinically important. (11) Because it is not possible to distinguish between latent and aggressive cases of prostate cancer at this time, this raises the possibility that many men experience morbidity due to treatment that may have been unnecessary.

In spite of the current lack of evidence regarding the effectiveness of screening for prostate cancer, screening for prostate cancer, particularly with PSA, is widespread. Lacking such objective evidence, physicians who wish to perform prostate cancer screening tests have an additional obligation to educate patients about the potential benefits and risks of screening and treatment, and to take patient risk factors and preferences (for quality of life, fear of cancer, willingness to live with complications of surgery) into account.

Because testing is widespread, physicians should be careful to apply screening measures particularly under conditions that optimize the positive predictive value of screening tests, for example, targeting men with risk factors such as older age, African American race, and family history of prostate cancer. Additional tests, such as percent free PSA, should be considered to increase the specificity of PSA testing in men with elevated PSA levels. (12)

National guidelines for prostate cancer screening, particularly those for PSA, are being intensely debated. Within the next decade the results of randomized, controlled clinical trials of prostate cancer screening will become available. The Rhode Island recommendations for prostate cancer screening will be revisited should these study results or the results of other studies warrant a change in screening recommendations.

References

1. Rhode Island Department of Health. *Cancer Control Rhode Island. Plan for 1990-1992*. Providence, RI: Rhode Island Department of Health, 1989.
2. U.S. Preventive Services Task Force. *Guide to Clinical Preventive Services, 2nd ed*. Baltimore: Williams and Wilkins, 1996.
3. Office of Technology Assessment. *Costs and effectiveness of prostate cancer screening in elderly men*. Washington, DC: Government Printing Office, 1995. (Publication no. OTA-BP-H-145.)
4. Fletcher RH, Fletcher SW and Wagner EH. *Clinical epidemiology. The essentials*. Baltimore, Williams & Wilkins, 1988.
5. Parker SL, Tong T, Bolden S, Wingo PA. *Cancer Statistics, 1996*. Atlanta Ga: American Cancer Society; 1996.
6. Wilt TJ, Brawer MD. The Prostate Cancer Intervention Versus Observational Trial: a randomized trial comparing radical prostatectomy versus expectant management for the treatment of clinically localized prostate cancer. *J Urol* 1994;152:1910-14.
7. Johansson JE. Expectant management of early stage prostatic cancer: Swedish experience. *J Urol* 1994;152:1753-6.
8. Gohagan JK, Prorok PC, Kramer BS, Cornett JE. Prostate cancer screening in the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial of the National Cancer Institute. *J Urol* 1994;152:1905-9.
9. Catalona WJ, Smith DS, Ratliff TL, Bosler JW. Detection of organ-confined prostate cancer is increased through prostate-specific antigen-based screening. *JAMA* 1993;270:948-54.
10. Kramer BS, Brown ML, Prorok PC, Potosky AL, Gohagan JK. Prostate cancer screening: what we know and what we need to know. *Ann Intern Med* 1993;119:914-23.
11. Woolf SH. Screening for prostate cancer with prostate-specific antigen. An examination of the evidence. *NEJM* 1995;333:1401-5.
12. Catalona WJ, Smith DS, Wolfert RL, Wang TJ, Rittenhouse HG, Ratliff TL, Nadler RB. Evaluation of percentage of free serum prostate-specific antigen to improve specificity of prostate cancer screening. *JAMA* 1995;274:1214-20.